

### Office Action Summary

**Application No.**

10/670,213

**Applicant(s)**

BARNWELL, JAMES W.

**Examiner**

Ljiljana (Lil) V. Ciric

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-45 is/are pending in the application.
- 4a) Of the above claim(s) 35-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Correspondence's Patent Drawing Review (PTO-845)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB-08)  
Paper No(s)/Mail Date 10122005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of the first species or the embodiment of Figure 2, drawn to claims 28 through 34, in the reply filed on November 10, 2005 is acknowledged. The traversal is on the ground(s) that the examiner made no showing that there would be a serious burden to examine all the embodiments of the application together, and that the examiner furthermore has "powerful electronic search engines providing the examiner with the ability to quickly and easily search all the claims". This is not found persuasive because this is a broad-brush comment whereby applicant did not distinctly and specifically point out the supposed errors in the examiner's requirement to elect. Furthermore, each additional species which to be searched by the examiner would add a plurality of additional features or combinations of features to be searched and would exponentially increase the number of prior art references which would have to be carefully considered by the examiner in order to determine patentability of the corresponding claims. The "powerful" search engines that applicant alludes to only serve to increase the amount of "close" or relevant prior art to be considered by the examiner per claimed feature searched, thus frequently adding to the burden.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 35 through 45 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to non-elected species or inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on November 10, 2005.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on October 12, 2005 was filed before the mailing date of the first Office action on the merits. The submission is thus in compliance with the

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provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Drawings***

4. The drawings filed on September 26, 2003 are hereby approved.

***Specification***

5. The abstract of the disclosure is objected to because it does not avoid using words or phrases which can be implied (i.e., "is provided"). Correction is required. See MPEP § 608.01(b).
6. The use of the trademark "PCM Thermal Solutions" on page 11 has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "near" in claim 32 is a relative term which renders the claim indefinite. The term "near" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to qualify the location of the temperature sensing probe relative to the phase change material, this term renders the same indeterminate and the claim indefinite with regard to the scope of protection sought.

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***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. As best can be understood in view of the indefiniteness of claim 32, claims 28 through 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Mantegazza et al. (made of record by applicant via the IDS filed on October 12, 2005).

Mantegazza et al. discloses an air/refrigerant heat exchange system essentially as claimed, including, for example: an air/air heat exchanger (including tubes A and B connected via fins or stacked plates H); an air/refrigerant heat exchanger (including tubes A and D connected via fins or stacked plates H); a phase change material G disposed between the tubes A, B, and D and also between the stacked plates or fins H and contained within jacket P, the material including a thermal mass soaked with water which may form ice under certain operating conditions; a phase change refrigerant material disposed within tube D; air disposed within tubes A and B; a temperature sensing probe disposed within the phase change material G; and, a moisture separator E.

The reference thus reads on the claims.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantegazza et al. in view of Galus et al. (both made of record by applicant via the IDS filed on October 12, 2005).

As noted in greater detail above, Mantegazza et al. discloses an air/refrigerant heat exchange system essentially as claimed, including a moisture separator or condensate trap E.

While Mantegazza et al. does not specifically disclose the moisture separator as comprising a mesh condensate separator made from a non-rusting metal, it is known in the art and taught by Galus et al. to have a non-rusting (i.e., made from stainless steel) wire mesh 340 to provide for the removal of moisture droplets suspended in the air flowing through a heat exchanger system comprising both an air-to-air heat exchanger 12' and an air-to-refrigerant heat exchanger 14'.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the heat exchange system of Mantegazza et al. by using a non-rusting metallic wire mesh to remove condensate from an air-to-refrigerant heat exchange system as taught by Galus et al. in order to keep both initial manufacturing costs and subsequent maintenance costs low.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner can normally be reached on Mondays through Fridays from 10:00 a.m. to 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached at 571-272-4930.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ljiljana (Lil) V. Ciric  
Primary Examiner  
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